TECHNICAL DATA SHEET

Chryso Concrete Solutions

17/10/2024

Fly Ash

Other Product

DESCRIPTION

Fly Ash or Pulverised Fuel Ash (PFA) is a by-product resulting from the burning of pulverized coal in coal-fired power stations. A small percentage of the coal forms into fine glass spheres, the lighter of which are borne by the combustion process. It is then extracted from the flue gasses by electrostatic precipitators.

Fly Ash is a pozzolanic material which will not hydrate with water directly but needs lime to hydrate. In concrete, **Fly Ash** reacts with the lime that arises from the cement hydration to form a stable calcium silicates and calcium aluminate hydrates.
Fly Ash is a supplementary cementitious material that delivers improved workability, later-age strength, and enhances the durability properties of concrete.

BENEFITS

Although **Fly Ash** has environmental advantages, it also improves the performance and quality of concrete. It improves workability, reduces water demand, controls bleeding, and lowers heat of hydration.
The use of **Fly Ash** reduces the temperature rise in thick sections - with the addition of less cement in a concrete mix the heat produced during hydration is significantly reduced.
The **Fly Ash** reaction with lime reduces permeability, which reduces shrinkage, creep and gives greater resistance to chloride ingress and sulphate attack.
Fly Ash greatly improves the surface finish of the completed structure. It contributes to having a more cohesive concrete which has a reduced rate of bleeding making it easier to compact and giving the concrete better pumping properties.

PACKAGING

- Bulk delivery on request

FIELDS OF APPLICATION

Fly Ash can be used in almost any applications for concrete containing Portland cement.

- All cement types
- Precast
- Concrete for highly reinforced structures
- Foundation concrete below water table
- High durability concrete
- High performance Concrete - Very High Performance Concrete - Ultra High Performance Concrete
- Low-carbon concrete
- Ready-mix concrete
- Extended workability retention
- Hot weather concreting
- Pumped concrete
- Self consolidating concrete
- etc

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chryso SAINT-GOBAIN

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INDICATIVE INFORMATION

Product Nature	Fine powder
Color	Light grey
Loss on calcination	< 5,00 %
Specific gravity	2,550 ± 0,450
pH	9,50 ± 2,50

METHOD OF USE

Typical addition rates of **Fly Ash** in concrete ranges between 20 – 40% by weight of total cementitious content of the mix. To achieve optimum benefits, proper curing in line with good concrete practice should be followed.

The optimum dosage of **Fly Ash** can only be established after trial tests, taking into account local conditions, materials and specification requirements.

Addition rates of **Fly Ash** are dependent upon desired concrete performance characteristics and variables.

Because local job conditions vary, please contact your local **CHRYSO** sales representative for further assistance if using outside recommended addition ranges.

PRECAUTIONS

- Protect from humidity.
- Store in a well ventilated location.

Fly Ash can be handled in terms of batching, mixing, and delivery of concrete in the same way as cement. In dry powder form, it is often recommended to use aeration system for easy discharge from the silo (if stored in bulk).

Fly Ash when stored correctly has an indefinite shelf life. It must be protected from moisture and contamination as in the case of cement.

Compatibility:

Fly Ash can be used in combination with all types of Portland cement.

Fly Ash can be blended with silica fume with which the water reduction/workability properties of Fly Ash synergizing well with silica fume's accelerated hydration properties, thus resulting a high performance concrete with exceptional strengths and extreme durability.

Fly Ash is compatible with a wide range of **CHRYSO** admixtures often resulting in more cost effective dosages.

SAFETY

Fly Ash is highly alkaline. Suitable attire and Personal Protective Equipment (PPE) should be used to prevent dust inhalation and direct skin contact.

Prior to any use, please read carefully the Material Safety Data Sheets.

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